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SPECTRUM OF DAVIDSON'S COMET.

The spectrum of Davidson's comet was observed here with the twelve-inch equatorial, on July 31st, and with the thirty-six-inch equatorial, on August 1st. The *coma* showed a spectrum consisting of three somewhat diffuse bright bands, which were found to be identical in position with the carbon fluting given by the blue flame of a spirit lamp. A faint luminosity connected the bands, so that the spaces between them were not perfectly dark.

The nucleus gave a continuous spectrum not extending below the D line, with slight brightenings at the positions of the carbon flutings. Such a spectrum would probably be given by the material of the *coma* at an increased pressure. Although the comet is now rated at about the sixth magnitude, its spectrum is much fainter than that of a star of this brightness, on account of the diffusion of its light over a large area.

J. E. K.

Aug. 2, 1889.

NEW DOUBLE STARS.

One of the more recent double-star discoveries with the thirty-six-inch telescope is a seventh-magnitude star (D. M. 30°, 4809) near η Pegasi. The measures on three nights give:

1889.55   335°.3   0″.23   7.2   8.2

The 4-5 m. star, ψ *Cassiopeæ*, has been known since the first HERSCHEL as a triple star, from a small double companion at a distance of 28″ from the large star. The Lick telescope shows a small star of about 13-5 m. at a distance of 3″.2 in the direction of 41°.2.

A careful set of measures of the close pair, κ *Pegasi* (β 989) has been made with the thirty-six-inch telescope. The change in both angle and distance has been very great since its discovery with the Chicago telescope in 1880. As the distance now is only 0″.14, it could hardly be seen, or measured, with any instrument much smaller than the Lick telescope. The components differ by only about half a magnitude, and there is a possibility of the wrong quadrant having been given in my first measures made in 1880, although at the time this was carefully looked after. Taking the early measures as they stand, the motion (direct) would be 235° in nine years. If the first angle should be reversed, the change would be only 56°.

There is a small star 11″ distant, which makes the double, Σ 2824. This is fixed with reference to the bright star.